



Soil Loading Drawer

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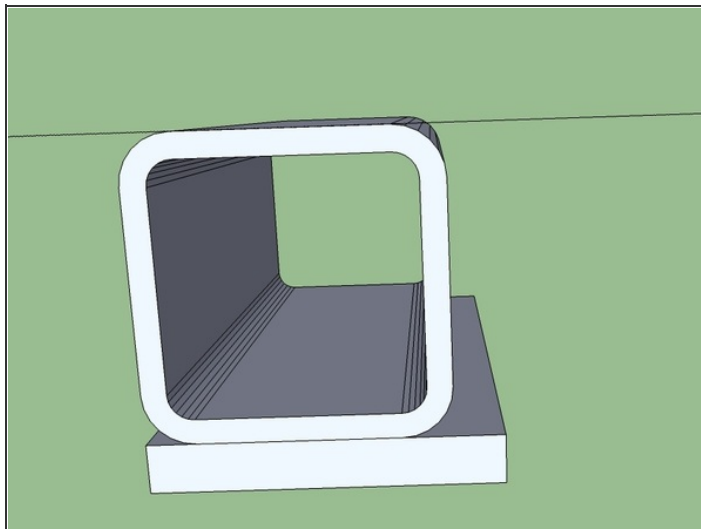
TOOLS:

- [Angle grinder \(1\)](#)
- [Speed Square \(1\)](#)
- [Welder \(1\)](#)

SUMMARY

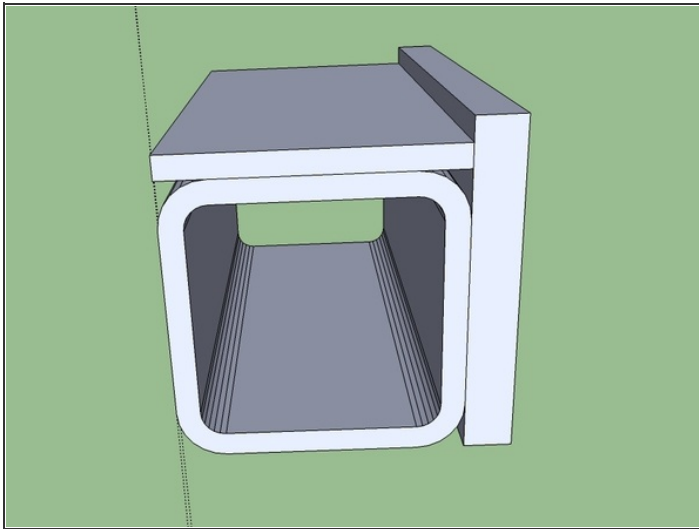
[Sketchup Model](#)

Step 1 — Weld Press Plate to Spacer



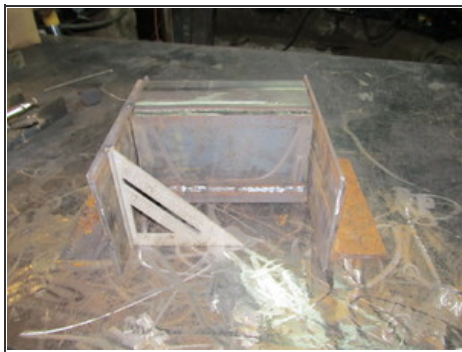
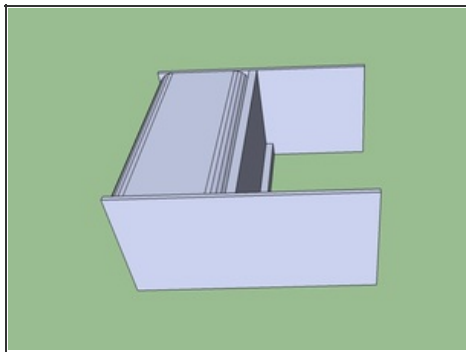
- Lay the spacer tube on top of the press plate, align the sides and make the back edge flush.
- Insure all edges are tight and squared; this piece is critical, it must be a uniform height throughout the entire item. Grind off any imperfections.
- Tack weld the two together in many places (at least 3 on each seam).
- Double check everything for squareness!!
- Weld the two together on all edges where they touch
- It is a good idea to weld in 1" or 2" increments, skipping around to different places to prevent warpage. You will need to weld multiple layers where the tubing is rounded.

Step 2 — Weld the vertical support



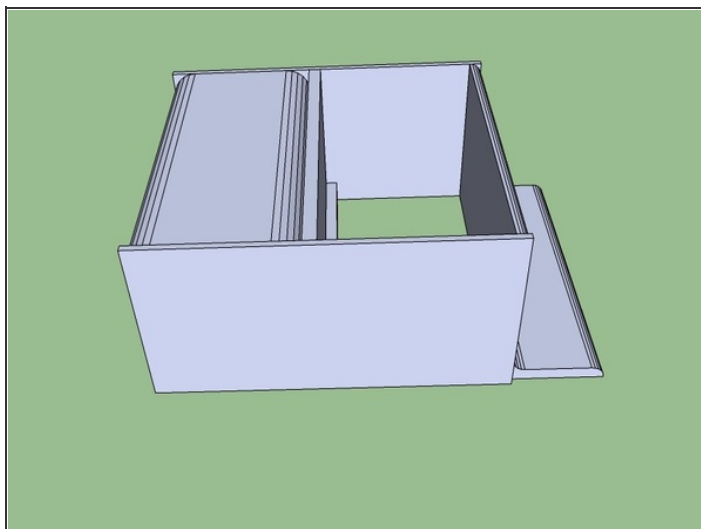
- Place the vertical support and tack it in multiple places
- Weld the vertical support to the press plate and spacer tube assembly.
- Grind down the welds on the open end of the tube so they are flush with the rest of the tube

Step 3 — Tack Sides



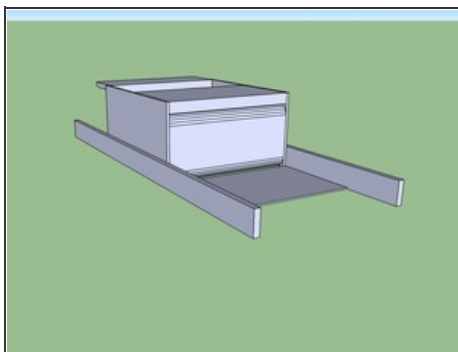
- Lay the spacer/press plate assembly down so the press plate is touching the table.
- Align side pieces with spacer and press plate assembly.
- Insure the two are square vertically and horizontally with the spacer, that they are parallel, and that everything is touching the table.
 - It helps to use angle iron tacked to your table and the sides, so it insures they are vertically square. This also makes it a bit easier to align everything else. [Video Help](#)
 - Also, it may help to use paper shims (see between the sides and the tube to properly space them. [Video Help](#)
- Tack the sides to the tube on all sides in multiple places except where it is touching the table. Add a few 1" seams to prohibit them from moving.
- Do a few light tacks first, and double check it's still square. If not, grind off the tacks and start over.

Step 4 — Tack the back



- Tack the back piece in a few spots, with a 1" seam on each side.

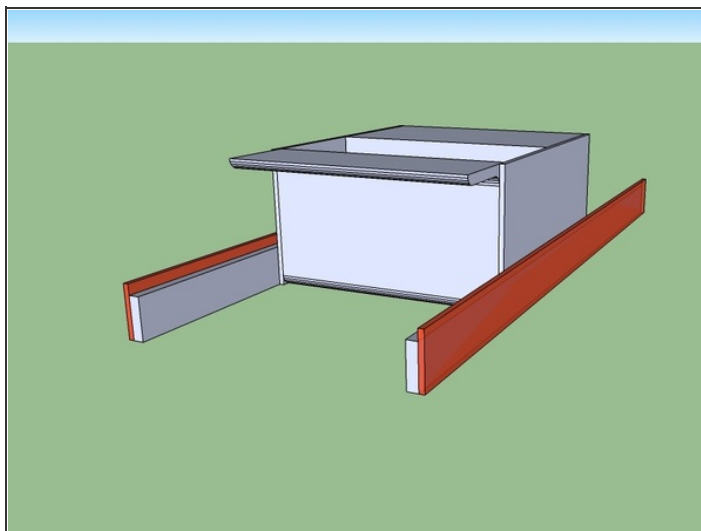
Step 5 — Tack Roof, Inner Rails



- Grind off the welds for the back and side pieces so that the entire drawer is flush.
- Flip the drawer over and tack the sides from the top.
- Place the roof and inner rails in their respective places. See Diagram.
- Insure inner rails are perfectly parallel (varying no more than a 16th of an inch) and square throughout the entire length.
- Tack them in multiple places except where they are touching the table.



Step 6 — Tack Outer Rails



- Insure they are perfectly parallel; otherwise they will leave the roller guides. Insure they vary no more than 1/16" over the entire length.
- Hint: Use paper shims for this



Step 7 — Weld Entire Drawer



- All the seams should be completely welded except the difficult to reach places between the inner and outer rails, those can be welded about 50%.
- Weld short lengths at a time and jump around a lot to minimize warping.
- You may want to grind off the welds in between passes around the drawer to allow it to cool.

Step 8 — Grind the entire drawer flush

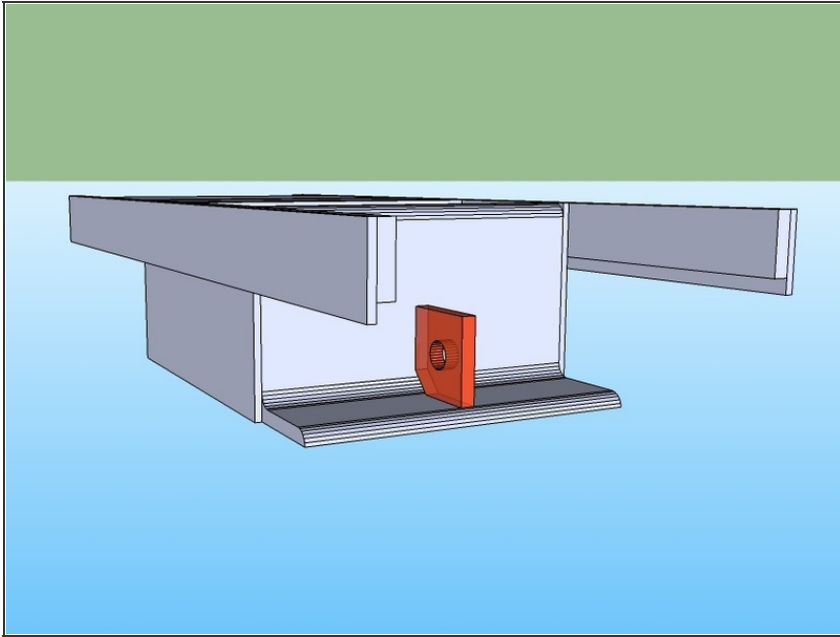
- There cannot be any outstanding bumps or welds anywhere; the drawer will be sliding in and out of a tight spot and bumps will catch on the frame crossmembers.
- Make sure there's no welding spatter where the rollers will be rolling. Grind any off with a small grinder

Step 9 — Check the Rails



- The rails likely got warped outwards on the side with the back while you were welding.
- If they are not still parallel, you will need to pinch them inwards so that they are. You can do so using two C-Clamps.

Step 10 — Weld Tongue In place



- Prepare as shown in the diagram
- Weld it to the back of the drawer, insuring it is square and centered

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